

Application No. 10/696,532
Response to Final Office Action

Customer No. 01933

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

The Examiner is thanked for conducting a telephone interview to discussed proposed amendments to the claims.

RE: THE CLAIMS

Claim 1 has been amended as discussed in the telephone interview to clarify the feature of the present invention whereby the laser light irradiation optical system comprises an active optical element which forms a variable pattern which is set to correspond to a necessary area, and wherein the laser light is irradiated to the sample through the pattern formed on the active optical element to obtain (i.e., cut) the necessary area from the sample.

In addition, claim 12 has been amended based on the amendments to independent claim 1 as well as to recite the feature of the pattern forming "means" in better compliance with the requirements of 35 USC 112, sixth paragraph. Namely, claim 12 has been amended to more clearly recite pattern forming means for transmitting or reflecting the laser light selectively in accordance with a variable pattern which is set to correspond to the necessary area to be obtained (i.e., cut) from the sample,

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and it is respectfully submitted that amended claim 12 is in full compliance with the requirements of 35 USC 112, sixth paragraph.

Still further, independent method claim 23 has been amended in a similar manner as discussed in the telephone interview to clarify the features of the present invention whereby a variable pattern is formed on an active optical element such that the pattern is set to correspond to the necessary area, and whereby the sample is irradiated with laser light through the pattern formed on the active optical element to obtain (i.e., cut) the necessary area from the sample.

It is respectfully submitted that the amendments to claims 1, 12 and 23 are clarifying only in nature, and that no new issues have been raised which require further consideration on the merits and/or a new search. Accordingly, it is respectfully requested that the amendments to claims 1, 12 and 23 be approved and entered under 37 CFR 1.116.

RE: THE PRIOR ART REJECTION

Claims 1-5, 7, 10-16, 18 and 20-26 were rejected under 35 USC 102 as being anticipated by USP 6,251,516 (previously cited "Bonner et al"), and claims 6, 8, 9 17 and 19 were rejected under 35 USC 103 as being obvious in view of the combination of Bonner et al and USP 5,756,586 (previously cited "Caprioli"). These rejections, however, are respectfully traversed.

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The Examiner states on page 3 of the Office Action that the Arguments set forth in the Amendment filed on August 3, 2005, with respect to claims 1-26 "are moot in view of the new ground(s) of rejection."

It is respectfully pointed out, however, the grounds of rejection of claims 1-26 in the Final Office Action dated October 19, 2005 are identical to the grounds of rejection set forth in the Office Action dated May 3, 2005.

And, as discussed in the telephone interview, it is again respectfully submitted that the Examiner still has not identified an active optical element (or "pattern forming means") in Bonner et al.

As pointed out in the Amendment filed on August 3, 2005, according to the present invention as recited in independent claims 1, 12 and 23, an active optical element or pattern forming means, such as a liquid crystal substrate (claim 34) or micro mirror array (claim 35), for example, is provided which forms a pattern that corresponds to the necessary area of the sample. For example, a pattern 4c as shown in Fig. 2B may be formed to allow the laser light, which is transmitted through the pattern 4c, to irradiate around the necessary areas to cut out the necessary areas from the sample. Alternatively, a pattern as shown in Fig. 9B may be formed to prevent laser light from irradiating areas 25b corresponding to the necessary areas. With

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the pattern shown in Fig. 9B, the area 25a, which does not include the samples, is irradiated to destroy the DNA therein.

According to the present invention as recited in clarified amended independent claims 1 and 23, the active optical element forms a variable pattern which is set to correspond to a necessary area, and the laser light is irradiated to the sample through the pattern formed on the active optical element to obtain the necessary area from the sample. And according to the present invention as recited in clarified amended independent claim 12, the pattern forming means transmits or reflects the laser light selectively accordance with a variable pattern which is set to correspond to a necessary area, and the laser light is irradiated to the sample through the pattern formed by the pattern forming means to obtain the necessary area.

That is, according to the claimed present invention as recited in claims 1 and 23, the laser is irradiated to the sample through the variable pattern formed on the active optical element, which is set to correspond to the necessary area to be obtained from the sample. And according to claim 12, the laser is selectively transmitted or reflected by the pattern forming means in accordance with a variable pattern on the active optical element, which is set to correspond to the necessary area to be obtained from the sample.

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By contrast, according to the laser capture microdissection technique of Bonner et al, which is shown in Fig. 9 thereof, a transfer film 54 is applied to a sample 50. Then, according to Bonner et al, cells of interest 56 are irradiated with laser light through the transfer film 54 to activate adhesive in the transfer film, and the transfer film 54 adheres to the cells of interest 56 at the irradiated location with sufficient strength such that when the transfer film 54 is removed from the sample, the irradiated cells of interest 56 are removed with the transfer film.

According to Bonner et al, "[t]he size of the tissue transferred, depending upon the needs of the operator, can be varied by changing the diameter of the laser beam and pulse durations" (column 11, lines 54-56).

It is respectfully submitted, however, that Bonner et al does not at all disclose, teach or even remotely suggest an active optical element or pattern forming means which forms a variable pattern which is set to correspond to a necessary area, such that laser light is irradiated to the sample through the variable pattern formed on the active optical element or pattern forming means, in the manner of the present invention as recited in clarified amended independent claims 1 and 23. And it is respectfully submitted that Bonner et al even more clearly does

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not disclose, teach or suggest pattern forming means for selectively transmitting and reflecting the laser light in accordance with a variable pattern which is set to correspond to the necessary area.

In addition, it is respectfully submitted that Bonner et al also does not disclose, teach or suggest any of the structural features recited in dependent claims 2, 4, 5, 13, 15, 16, 24-26 and 34-36, for example, all of which were rejected as being anticipated by Bonner et al without any identification of disclosure in Bonner et al that might correspond to the subject matter of these claims.

Caprioli, moreover, has again merely been cited for the disclosure of a laser beam to release samples for analysis.

In view of the foregoing, it is respectfully submitted that clarified amended independent claims 1, 12 and 23, as well as claims 2-11, 13-22 and 24-36 respectively depending therefrom, all clearly patentably distinguishes over Bonner et al and Caprioli, taken singly or in combination under 35 USC 102 as well as under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

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If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,



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